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ABSTRACT

Selected from the "Occupational Outlook Handbook," the listings included in this document represent a number of occupations for which junior college or other special training is useful. Each listing, grouped under a broader occupational area, provides a specific occupational title, number employed in the occupation in 1974, qualifications and training, and employment opportunities and trends through 1985. Occupations included are computer operating personnel, programmers, barbers, cosmetologists, funeral directors and embalmers, construction inspectors (government), occupational safety and health workers, library technicians and assistants, air traffic controllers, airplane mechanics, airplane pilots, forestry technicians, drafters, engineering and science technicians, surveyors, television and radio service technicians, dental assistants, dental hygienists, electrocardiograph technicians, electroencephalographic technicians, medical assistants, medical laboratory workers, medical record technicians and clerks, operating room technicians, optometric assistants, radiologic technologists, respiratory therapy workers, registered nurses, occupational therapy assistants, physical therapist assistants and aides, actors and actresses, dancers, musicians, singers, commercial artists, interior designers, and photographers. (SH)

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Jobs for Which Junior College, Technical Institute, or Other Specialized Training Is Usually Required

U.S. Department of Labor
Bureau of Labor Statistics

1976

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Jobs for Which Junior College, Technical Institute, or Other Specialized Training Is Usually Required

Are you planning to continue your education after high school? If you are willing to spend an extra year or two in a junior college, technical institute, or trade school, your interests will be well served. Your job horizons will widen, and you may be able to qualify for a greater variety of jobs at higher levels of skill and pay.

Here, selected from the *Occupational Outlook Handbook*, are listed a number of occupations for which junior college or other specialized training is useful. In referring to this list, remember that training and qualification requirements may be more flexible than indicated. Employers may say they prefer applicants with post high school training for the jobs shown, but they may settle for less. On the other hand, a few employers may consider only applicants with more education. Remember that, given a choice, employers will usually choose the applicant with the most education and training.

The summaries which follow give only highlights of job qualifications and employment trends described in the *Handbook*. For many occupations, special talents, aptitudes, and personal characteristics not specifically mentioned here may be necessary. Also, remember that the comments in the "Employment Opportunities. . ." column reflect conditions foreseen over the 1974 to 1985 period for the entire Nation. As a result, the comments do not necessarily reflect employment opportunities in any single year or in any specific locality.

The 1976-77 edition of the *Occupational Outlook Handbook* contains the following information for more than 850 occupations:

- Nature of the work
- Places of employment
- Training, other qualifications, and advancement
- Employment outlook
- Earnings and working conditions
- Sources of additional information

The *Handbook* is published every 2 years by the U.S. Department of Labor's Bureau of Labor Statistics. Copies may be purchased for $7 from any regional office of the Bureau of Labor Statistics. See back cover for addresses.

A list of reprints about jobs for which junior college, technical institute, or other specialized training is usually required appears at the end of this pamphlet. You may use the listing to order reprints.

Reprints of other occupations described in the *Occupational Outlook Handbook* also are available separately at 35¢ except reprint number 154 which is 45¢. A complete set of the 155 reprints may be purchased for $55. For a free list of all reprints, write to:

U.S. Department of Labor
Bureau of Labor Statistics
Occupational Outlook Service
GAO Building
Washington, D.C. 20212

Occupations (Employment 1974)	Qualifications and Training	Employment Opportunities and Trends to 1985
Office Occupations		
Computer and Related Occupations		
Computer Operating Personnel (500,000)	Training usually provided on the job. For console operator, some college training may be preferred.	Employment of keypunch operators is expected to decline because of advances in other data entry techniques and equipment. Employment of console and auxiliary equipment operators should grow faster than the average for all occupations, in response to the expanding usage of computer hardware, especially terminals.
Programmers (200,000)	Educational requirements vary by type of organization. The Federal Government and organizations that use computers for science and engineering require college graduates; graduate degrees may be needed for some positions. Employers who use computers to process business records do not require college degrees but prefer technical training beyond high school.	Employment is expected to grow faster than the average for all occupations, as computer usage expands, particularly in medical, educational, and data processing services. Best opportunities for programmers with some training in systems analysis.
Service Occupations		
Personal Service Occupations		
Barbers (130,000)	Almost all States require a license, for which applicants usually must be 16 (in some cases, 18), have completed 8th grade, have graduated from a State-approved barber school, and have served a 1-2 year apprenticeship.	Little or no employment change with most openings resulting from replacement needs. Better opportunities for hairstylists than for those offering conventional services.
Cosmetologists (500,000)	License required. Usually applicant must be at least 16 and have completed at least 10th grade and a State-approved cosmetology course. In some States, an apprenticeship may be substituted for the cosmetology course.	Employment is expected to grow about as fast as the average for all occupations, in response to the rise in demand for beauty shop services. Good opportunities for both newcomers and experienced cosmetologists, including those seeking part-time work.
Funeral Directors and Embalmers (45,000)	Twenty-one is generally the minimum age required by law. All States require embalmers to be licensed. Graduation from a mortuary science school and 1-2 year apprenticeship required.	Little change in employment is expected. Nevertheless, prospects are good for mortuary school graduates due to openings created by replacement needs.

Occupations (Employment 1974)	Qualifications and Training	Employment Opportunities and Trends to 1985
Protective and Related Service Occupations		
Construction Inspectors (Government) (22,000)	Employers prefer those with at least 2 years study toward an engineering or architectural degree, with courses in construction technology, blueprint reading, technical mathematics, and building inspection. Most training received on the job.	Employment is expected to increase faster than the average for all occupations. Best opportunities for those with some college education and knowledge of a specialized type of construction.
Occupational Safety and Health Workers (25,000)	Graduates of 2-year occupational safety or health curriculums hired as technicians. Continuing education important.	Employment is expected to increase faster than the average for all occupations, as growing concern for occupational safety and health and consumer safety continues to generate programs and jobs. Best prospects for graduates of occupational safety or health curriculums.
Education and Related Occupations		
Library Occupations		
Library Technicians and Assistants (135,000)	Formal post-high school training for library technicians preferred. Some learn on the job.	Employment is expected to grow faster than the average for all occupations. Best opportunities in large public and college and university libraries, particularly for graduates of academic programs.
Occupations in Transportation Activities		
Air Transportation Occupations		
Air Traffic Controllers (22,000)	Must speak clearly and precisely, have 3 years' experience in the aviation field or 4 years of college, and pass a Federal civil service exam.	Although employment is expected to grow about as fast as the average for all occupations as the number of aircraft increases, applicants may face keen competition. Best opportunities for college graduates with experience as controllers, pilots, or navigators.
Airplane Mechanics (130,000)	Most train in FAA-approved mechanics' schools. Large airlines train a few in 3- or 4-year apprenticeship programs. A license from the FAA is frequently required.	Although employment is expected to increase about as fast as the average for all occupations, opportunities in various areas of aviation will differ. Good opportunities in general aviation; keen competition for airline jobs; opportunities in the Federal Government dependent upon defense spending.
Airplane Pilots (79,000)	Written and physical exam required. Must be licensed by FAA and meet flight time requirements. For some types of flying, instrument rating also needed. License to fly in bad weather is usually required. Most airlines require 2 years or more of college.	Although employment is expected to grow faster than the average for all occupations, applicants are likely to face keen competition. Best opportunities for recent college graduates with flying experience.

Occupations (Employment 1974)	Qualifications and Training	Employment Opportunities and Trends to 1985
Scientific and Technical Occupations		
Conservation Occupations		
Forestry Technicians (10,500)	One or 2 years of training after high school or experience such as planting trees and fighting fires.	Employment is expected to increase faster than the average for all occupations. However, due to the anticipated large number of qualified applicants, even those with specialized post-high school training may face competition.

Occupations (Employment 1974)	Qualifications and Training	Employment Opportunities and Trends to 1985
Other Scientific and Technical Occupations		
Drafters (313,000)	Technical training usually required in a junior college, technical institute, or vocational school; also 3- or 4-year apprenticeship.	Employment is expected to increase faster than the average for all occupations, as more drafters will be needed as supporting personnel for a growing number of scientists and engineers. Increasingly complex design problems also will require additional drafters. Best opportunities for holders of associate degrees in drafting.
Engineering and Science Technicians (560,000)	Technical training after high school usually required. Many train on the job.	Employment is expected to grow faster than the average for all occupations, as a result of industrial expansion and an increasingly important role for technicians in research and development. Favorable employment opportunities, particularly for graduates of post-secondary school technician training programs.
Surveyors (55,000)	Usually special training following high school plus training on the job. Some specialties require a college degree.	Employment is expected to increase much faster than the average for all occupations, in response to the rapid development of urban areas. Best opportunities for those with post-secondary school training in surveying.
Mechanics and Repairers		
Television and Radio Service Technicians (135,000)	Technical or vocational school training, correspondence courses plus training on the job, or military service courses. Some learn entirely on the job.	Employment is expected to increase faster than the average for all occupations, in response to the growing number of radios, television sets, phonographs, tape recorders, and other home entertainment products.
Health Occupations		
Dental Occupations		
Dental Assistants (120,000)	Post-high school courses in dental assisting preferred. Some learn on the job.	Employment is expected to grow faster than the average for all occupations, in response to the increasing use of assistants by dentists. Excellent opportunities, especially for graduates of approved programs. Favorable outlook for part-time work.
Dental Hygienists (23,000)	License necessary. Graduation from 2-year dental hygiene school required.	Employment is expected to grow much faster than the average for all occupations, in response to the increasing use of hygienists by dentists. Very good prospects for graduates of approved programs.

Occupations (Employment 1974)	Qualifications and Training	Employment Opportunities and Trends to 1985
Medical Technologist, Technician, and Assistant Occupations		
Electrocardiograph (EKG) Technicians (11,000)	Most train on the job, but some colleges and universities offer EKG courses.	Employment is expected to increase faster than the average for all occupations, because of growing reliance on electrocardiograms in diagnosis and physical examinations.
Electroencephalographic (EEG) Technicians (3,800)	Most qualify through on-the-job training, but formal training in colleges, universities, and hospitals is available.	Employment is expected to grow faster than the average for all occupations, in response to the increased use of electroencephalographs in surgery and in diagnosing and monitoring patients with brain disease.
Medical Assistants (220,000)	Most receive training in a physician's office. Training may be obtained in vocational high schools or institutes and in junior colleges.	Employment is expected to increase faster than the average for all occupations in response to the growth in the number of physicians. Excellent opportunities, particularly for graduates of accredited junior college programs.
Medical Laboratory Workers (175,000)	A medical laboratory technician ordinarily needs one or more years of training after high school. A medical technologist usually must complete 4 years of college including specialized training in medical technology. A medical assistant usually needs only a high school education and on-the-job training.	Employment is expected to increase faster than the average for all occupations, as physicians make wider use of laboratory facilities. However, applicants may face competition for choice positions.
Medical Record Technicians and Clerks (53,000)	Most employers prefer technicians who are graduates of college or hospital-based programs lasting 10 months to 2 years. High school diploma and on-the-job training are usually adequate for clerks.	Very good outlook for clerks due to the anticipated expansion in medical facilities and recordkeeping. Favorable prospects for technicians with at least an associate degree; those with less education may face strong competition.
Operating Room Technicians (28,000)	Training may be obtained on the job in hospitals, vocational schools, junior colleges, or in "medic" programs of the Armed Forces.	Employment is expected to grow faster than the average for all occupations, as operating room technicians increasingly assume more of the routine nursing tasks in the operating room. Good opportunities, particularly for graduates of 2-year junior college programs.
Optometric Assistants (11,500)	Vocational or technical school programs becoming more important. However, most train on the job.	Employment is expected to grow much faster than the average for all occupations, in response to greater demand for eye care services. Excellent opportunities for those who have completed formal training programs.

Occupations (Employment 1974)	Qualifications and Training	Employment Opportunities and Trends to 1985
Radiologic (X-Ray) Technologists (82,000)	Usually a 2-year post-high school training program. Bachelor's degree important for teaching or administration.	Despite faster than average employment growth as X-ray equipment is increasingly used to diagnose and treat diseases, graduates of AMA-approved programs may face competition for choice positions. Part-time workers will find the best opportunities in physicians' offices and clinics.
Respiratory Therapy Workers (38,000)	Although training may be obtained on the job, junior college programs are stressed.	Employment is expected to grow much faster than the average for all occupations, owing primarily to the many new uses for respiratory therapy. Favorable employment opportunities.
Nursing Occupations		
Registered Nurses (860,000)	Three types of training available: Diploma programs (3 years) mainly in hospitals; associate degree programs (2 years) in junior and community colleges; and baccalaureate degree programs (4-5 years) in colleges or universities. License required for practice.	Favorable opportunities, especially for nurses with graduate education seeking positions as teachers and administrators. Particular demand in some southern States and many inner-city locations.
Therapy and Rehabilitation Occupations		
Occupational Therapy Assistants (7,900)	Training may be received on the job, in vocational and technical school programs, or in junior college programs.	Employment is expected to grow faster than the average for all occupations, due to public interest in the rehabilitation of disabled persons and the success of established occupational therapy programs. Favorable opportunities for graduates of approved programs.
Physical Therapist Assistants and Aides (10,500)	Most qualify through on-the-job training. Others learn their job in vocational, technical, or adult education programs or in junior colleges.	Employment is expected to grow much faster than the average for all occupations, resulting in excellent opportunities for both assistants and aides.
Art, Design, and Communications-Related Occupations		
Performing Artists		
Actors and Actresses (10,000)	Formal training in drama courses useful; college degree increasingly necessary. Experience, however, is sometimes chief requirement. Talent necessary.	Overcrowding in the acting field is expected to persist, resulting in keen competition. Moreover, many actors are employed for only a part of the year.
Dancers (7,000)	Training begins between ages 7 and 12, usually at a professional dancing school. Talent essential.	Those seeking professional careers in dance are likely to face keen competition, despite an expected faster than average rate of employment growth. Teaching offers the best opportunities.

Occupations (Employment 1974)	Qualifications and Training	Employment Opportunities and Trends to 1985
Musicians (85,000)	Training through private study or in a college or conservatory. For teaching in public schools, a 4-year course in a college or conservatory and a State certificate usually required. Musical talent necessary.	All but the highest caliber of symphonic players are likely to face keen competition. Better prospects for those qualified as teachers as well as musicians than for those qualified as performers only.
Singers (36,000)	Training through private lessons in a conservatory or in a college. To teach music in public school, a B.A. in music education and a State certificate are required. Musical talent necessary.	Keenly competitive field, despite an expected faster than average rate of employment growth. Some opportunities will arise from the expanded use of TV satellites, cable TV, and wider use of video cassettes, but the best prospects are in teaching.
Design Occupations		
Commercial Artists (64,000)	Usually 2 or 3 years of art school. Vocational high school helpful. Artistic talent necessary.	Talented and well-trained commercial artists may face competition for employment and advancement in most kinds of work. Those with only average ability and little specialized training will encounter keen competition and have limited advancement opportunities.
Interior Designers (34,000)	Usually a 3-year course at a recognized art school or institute, or a 4-year college course with a major in interior design or decoration.	Competition for beginning jobs. Best opportunities for talented college graduates who majored in interior design and graduates of professional schools of interior design. Those with less talent or without formal training are likely to face increasingly keen competition.
Photographers (80,000)	Generally 2 or 3 years of on-the-job training. For some specializations, post-high school training is needed.	Employment is expected to grow about as fast as the average for all occupations. Good opportunities in technical fields such as scientific and industrial photography. Portrait and commercial photographers are likely to face keen competition.

Occupational Outlook Handbook Reprints for Jobs Discussed in this Leaflet

Employment Outlook for	Bulletin No.	How Many	Total Cost
Computer and Related Occupations Computer Operating Personnel Programmers Systems Analysts	1875-23	_____	_____
Barbers, Cosmetologists	1875-40	_____	_____
Funeral Directors and Embalmers	1875-41	_____	_____
Health and Regulatory Inspectors Construction Inspectors Occupational Safety and Health Workers	1875-47	_____	_____
Library Occupations Librarians Library Technicians and Assistants	1875-49	_____	_____
Civil Aviation Air Traffic Controllers Airplane Mechanics Airplane Pilots Flight Attendants Reservation, Ticket, and Passenger Agents	1875-69	_____	_____
Conservation Occupations Foresters Forestry Technicians Range Managers Soil Conservationists	1875-74	_____	_____
Other Scientific and Technical Occupations Drafters Engineering and Science Technicians Surveyors	1875-80	_____	_____
Television and Radio Service Technicians	1875-97	_____	_____
Optometrists, Optometric Assistants	1875-100	_____	_____
Dental Occupations Dentists Dental Assistants Dental Hygienists Dental Laboratory Technicians	1875-101	_____	_____

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Employment Outlook for	Bulletin No.	How Many	Total Cost
Medical Technologists, Technicians and Assistant Occupations Electrocardiograph Technicians Electroencephalographic Technicians Medical Assistants Medical Laboratory Workers Operating Room Technicians Radiologic (X-Ray) Technologists Respiratory Therapy Workers	1875-105	_____	_____
Nursing Occupations Registered Nurses Licensed Practical Nurses Nursing Aides, Orderlies, and Attendants	1875-106	_____	_____
Therapy and Rehabilitation Occupations Occupational Therapists Occupational Therapy Assistants Physical Therapists Physical Therapist Assistants and Aides Speech Pathologists and Audiologists	1875-107	_____	_____
Medical Record Administrators Medical Record Technicians and Clerks	1875-111	_____	_____
Performing Arts Actors and Actresses Dancers Musicians Singers	1875-120	_____	_____
Commercial Artists	1875-122	_____	_____
Interior Designers	1875-126	_____	_____
Photographers Photographic Laboratory Workers	1875-128	_____	_____

Orders for copies of this leaflet or for priced publications should be sent to any regional office of the Bureau of Labor Statistics, U.S. Department of Labor.

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